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ABSTRACT

Science is everywhere and should be learned inside as well as outside of the science classroom. This document provides a list of science resources to help parents bring the scientist out in their child. The article includes information on the following topics: (1) Sources of Science Activities; (2) Reading, Television, and Video Resources in Science; (3) Computer Resources; (4) Programs and Information on Parental Involvement; (5) Curricular Reform in Science Education; (6) Science Fair Resources; and (7) Careers in Science. (ZWH)

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Science Education Resources

An Annotated Bibliography

ERIC CSMEE

Science Education Resources for Families

by: Peter Rillero

ED 372 956

Clearinghouse for Science, Mathematics, and Environmental Education — *July 1994*

Sources of Science Activities

Acid Rain: Science Projects contains problems and activities designed to emphasize the basic ideas of science and to relate procedures and activities to the real world.

Hessler, E. W., & Harriett S. S. (1987). *Acid rain: Science projects*. Raleigh, NC: The Acid Rain Foundation (1410 Varsity Drive, Raleigh, NC 27606). $9.95.

Birds, Bats, and Butterflies is a series of leaflets on nature education in outdoor settings describing personal experiences of children in nature, scientific information on nature, and nature activities. The four issues in this series cover the following topics: (1) noticing and understanding changes in nature during spring, (2) finding bird's nests, (3) understanding decomposers in the ecosystem, and (4) watching bugs in the winter.

Baldwin, M. K. (1992). *Birds, bats, and butterflies* [Leaflets for adults who want to share nature with children, Nos. 1-4]. Jamestown, NY: Roger Tory Peterson Institute of Natural History. (ERIC Document Reproduction Service No. ED 347 036)

"Bring Out the Scientist in Your Child" describes the parent's role in helping children learn science and presents suggestions for science activities based on household events and focusing on basic concepts.

Bring out the scientist in your child. (1992, March). *PTA Today, 17*(5), 13-15.

Como Ayudar a Sus Hijos a Aprender Ciencia describes activities and ways that parents can interest their 3- to 10-year-old children in science.

Paulu, N., & Martin, M. (1992). *Como ayudar a sus hijos a aprender ciencia*. Washington, DC: Office of Educational Research and Improvement (U.S. Government Printing Office, Superintendent of Documents, Mail Stop: SSOP, Washington, DC 20402-9328; Order #065-000-00521-1). Free. (ERIC Document Reproduction Service No. ED 352 266)

Creepy Crawlies and the Scientific Method provides many wonderful science activities to do with readily available organisms (mostly insects).

Kneidel, S. S. (1993). *Creepy crawlies and the scientific method*. Golden, CO: Fulcrum Publishing.

"Discovery" discusses activities related to flying. Instructions for making kites, paper airplanes, and parachutes are included.

Perry, S. K. (1993, September). Discovery. *Parenting*, pp. 161-164.

The Earth Science Book: Activities for Kids contains activities, background information, and imaginative drawings for students in upper elementary and middle school grades.

Zike, D. (1993). *The earth science book: Activities for kids*. New York: Wiley. $12.95.

Earth's Mysterious Atmosphere, Atlas 1 is designed as a detective story to help the reader appreciate some of the many questions currently studied by scientists around the world regarding changes in the Earth's atmosphere.

NASA. (1992). *Earth's mysterious atmosphere, Atlas 1* [Teacher's Guide with activities for middle-school students]. Washington, DC: Author (EP-282/11-91; see address below for ordering NASA publications). (ERIC Document Reproduction Service No. ED 361 167)

Explorabook: A Kids' Science Museum in a Book contains 50 science activities and includes the special tools (magnets, agar, mirrors, etc.) to do them.

Cassidy, J. (1991). *Explorabook: A kids' science museum in a book*. Palo Alto, CA: Klutz Press (2121 Staunton Court, Palo Alto, CA 94306). (415) 424-0793. $17.95.

Helping Your Child Learn Science describes activities and ways that parents can interest their 3- to 10-year-old children in science.

Paulu, N. (1992). *Helping your child learn science*. Washington, DC: Office of Educational Research

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and Improvement. (202) 783-3238. (ERIC Document Reproduction Service No. ED 330 584)

Investigating Science With Dinosaurs uses children's interest in dinosaurs for authentic learning about science and scientific subjects including mechanics, skeletal systems, radiometric dating, plate tectonics, and fossils.

Munsart, C. A. (1993). *Investigating science with dinosaurs*. Boulder, CO: Teacher Ideas Press. (800) 237-6124.

Nature Projects on File presents interesting experiments and projects for children.

Walker, R. (1992). *Nature projects on file* [Experiments, demonstrations, and projects for school and home]. New York: Facts On File (460 Park Avenue South, New York, NY 10016). (800) 322-8755.

Notes for Parents is a newsletter published twice per year containing science activities, ideas, and resources for parents.

American Association for the Advancement of Science. (Biannual). *Notes for parents* [Newsletter]. Washington, DC: Author (AAAS Directorate for Education and Human Resources Programs, 1333 H Street NW, Washington, DC 20005-4792). (202) 326-6670.

Paired Science: A Resource Pack for Parents and Children presents 45 science activities for children ages 5-7 to do with their parents or with older children.

Croft, S., & Topping, K. (1992). *Paired science: A resource pack for parents and children*. Scotland: Centre for Paired Learning, Psychology Department, University of Dundee. $50.00.

Science-By-Mail is a national pen-pal program that pairs scientists with children in grades 4-9. Children receive three science challenge packets in the mail during the course of a school year. The children send their creative solutions to their scientist pen pal, who corresponds with encouraging feedback. Parents can use this as a home-school activity or for students to do on their own or with friends. Call (800) 729-3300. Cost is $49.00 per group of 1-4 students.

Science Experiments on File presents interesting science activities for middle school and high school students.

Tyler, V. (1989). *Science experiments on file* [Experiments, demonstrations, and projects for school and home]. New York: Facts On File (460 Park Avenue South, New York, NY 10016). (800) 322-8755. (ERIC Document Reproduction Service ED 307 129)

"Sowing Lessons: The Many Ways That Gardening Helps Kids Grow" discusses educational benefits of having children grow plants in a garden.

Mack, T. (1993, April). Sowing lessons: The many ways that gardening helps kids grow. *Sesame Street Parents' Guide*, pp. 16-17.

Space Station Freedom contains activities and illustrations to be presented to students in the elementary grades by a teacher or a parent. Subject matter includes: the space shuttle, communications, weightlessness, solar energy, hatches and airlocks, and living and working in outer space.

NASA. (1993, February). *Space Station Freedom* [An activity book for elementary school students]. Washington, DC: Author (PED-128; see address below for ordering NASA publications). Free. (ERIC Document Reproduction Service ED 364 420)

WonderScience is published monthly from October to May as a joint publication of the American Chemical Society (ACS) and the American Institute of Physics (AIP). It contains fun physical science activities for children and adults to do together.

ACS, & AIP. (8 issues). *WonderScience*. (American Chemical Society, 1155 Sixteenth St. NW, Washington, DC 20036). $7.50.

"You Can With Beakman and Jax" is a feature column by Jok Church that frequently contains science activities. The column appears in the cartoon section of more than 250 newspapers around the world including the *Columbus Dispatch*, the *Chicago Sun-Times*, the *San Francisco Chronicle-Examiner*, the *Atlanta Constitution*, and the *Cleveland Plain Dealer*. Call your local newspaper for information.

Reading, Television, and Video Resources in Science

Assignment Discovery airs two commercial-free documentaries for educators every morning, 9-10 am. These videos are designed for grades 6-12 and can be taped for home or school use. Science and technology are featured on Mondays and natural science on Wednesdays. For a free copy of the *Discovery Network's Educator's Guide*, which gives the program schedule, call (800) 321-1832.

Children's Choices is an annual list of all kinds of books recommended for children. Available free by sending a stamped, self-addressed envelope to International

Reading Association, 800 Barksdale Road, P.O. Box 8139, Newark, DE 19714.

CRO is an animated series that entertains children with lively characters in a dramatic storyline while stimulating their interest in the scientific principles behind the workings of familiar machines. The second season of the show airs at 12 noon on Saturdays on ABC. Free *CRO* comic books are now available (in sets of 100) and activity books, trading cards, and posters will be available in the near future. Contact Sandra Bugg, Children's Television Workshop, One Lincoln Plaza, New York, NY 10023.

"**Exploration and Discovery: Books for a Science Curriculum**" reviews 92 children's books which would enhance many topics in a science curriculum.

Galda, L., et al. (1990). Exploration and discovery: Books for a science curriculum (children's books). *Reading Teacher, 44*(4), 316-25.

"**It's More Than Reading a Book**" demonstrates how literature can support the learning of science. Provides a suggested reading list for dreams, journeys, fears and shadows, night noises, and fantastic creatures.

Dybdahl, C. S., & Shaw, D. G. (1993, Summer). It's more than reading a book. *Science Activities, 30*(2), 34-39.

"**Kid's Lit's Growing Pains**" reviews modern children's literature and recommends the following science-related books:

The Last Giants by Francois Place (Godine, $15.00). A fictional account of a 19th-century naturalist whose discovery of a race of giants leads to their destruction. This book serves as a caution against scientific arrogance.

Square Seashore by Donald Silver (Freeman, $14.95). Budding naturalists are encouraged to explore and catalog a small patch of earth.

See How They Grow (series) by Dorling Kindersley ($7.95 each). Stages of life of a herd of animals (from puppies to penguins) are presented in simple photographs and uncluttered text.

Jones, M., Jr. (1993, November 22). Kid's lit's growing pains. *Newsweek*, pp. 54-56.

Launch Box is an educational video series targeted at teachers and students in grades 3-8. The 14 half-hour programs are repeated at regular intervals on Nickelodeon and can be taped. For more information, contact Launch Box, Nickelodeon Studios, 1000 Universal Studios Plaza, Orlando, FL 32819; (407) 363-8500. Supplementary materials are available from NASA (see below).

"**Libros de Ciencia en Espanol**" presents an annotated bibliography of outstanding science books written in Spanish.

Schon, I. (1994, March). Libros de ciencia en espanol. *Science and Children, 31*(6), 38-40.

"**Notable Children's Trade Books in the Field of Social Studies for 1994**" presents an annotated bibliography of books in the social sciences. This includes science-related books in the area of biography, anthropology, geography, and contemporary issues, such as the environment. The listing is published in the journal *Social Education* (1994, April/May) or can be purchased from Children's Book Council, 568 Broadway, Suite 404, New York, NY 10012 for $2.00 and a stamped, self-addressed envelope.

"**Outstanding Science Trade Books for Children for 1994**" presents an annotated bibliography of outstanding science books for students in grades preK-8. The listing is published in the journal *Science and Children* (1994, March) or can be purchased from the Children's Book Council, 568 Broadway, Suite 404, New York, NY 10012 for $2.00 and a stamped, self-addressed envelope.

Parents magazine regularly reviews books and videos. In their September 1993 issue they give an "A" rating to *In the Small, Small Pond* by Denise Fleming. This rhyming picture book follows a frog through the seasons as it encounters other forms of pond life.

Ranger Rick for ages 6-12 and ***Your Big Backyard*** for ages 3-5 are two magazines that provide interesting information and vivid pictures on various aspects of nature. For 12 issues, the cost is $15.00 for *Ranger Rick* and $12.00 for *Your Big Backyard*. Both magazines are published by National Wildlife Federation, 1400 Sixteenth St. NW, Washington, DC 20036-2266. Call (800) 432-6564.

Science Books and Films is published nine times per year by the American Association for the Advancement of Science ($40). It reviews print, audiovisual, television, and electronic resources. The editors' top choices for films for young children in the March 1994 issue are *Wonders in Your Own Backyard* and *Wonders in a Country Stream*, both available from Churchhill Media, 12210 Nebraska Avenue, Los Angeles, CA 90025-3600. Among the science activity books recommended in the March and June/July 1994 issues are:

Science Toolbox: Making and Using the Toys of Science by Jean Stangle (TAB, $9.95).

Slime and Rubber Bones! Awesome Science Activities (TAB, $9.95).

CheckPoint: A Science Project Survival Guide for Kids and Adults by Edward P. Short (Quest, $9.95)

3-2-1 Classroom Contact presents 30 science topics in 15-minute versions of the original *3-2-1 Contact* television series. Check local PBS listings. The broadcast comes with eight-year off-taping rights.

3-2-1 Contact is an award-winning magazine about science, mathematics, and technology for children ages 8-12. Each issue contains factual information, hands-on activities, news of scientific discoveries, and a question-and-answer column. The cost is $16.90 for 10 issues per year. Write to *3-2-1 Contact*, P.O. Box 51177, Boulder, CO 80322-1177.

Computer Resources

Club Kidsoft is a magazine and CD-ROM that features a buyer's guide and demonstrations of software from major software publishers. Call (800) 354-6150. The cost is $9.95 for four magazine issues.

"Learning Curve: Smart Computer Programs for Kids" presents advice to parents on buying computer software for preschoolers and lists the following resources:

The Parent's Guide to Educational Software by Marion Blank and Laura Berlie (Microsoft Press, $15.00).

Kids and Computers: A Parent's Handbook by Judy Salpeter (SAMS/Prentice Hall, $17.00).

High/Scope Buyer's Guide to Children's Software 1993 by Warren Buckleitner (High/Scope Press, $20.00).

Weiss, J. (1993, September). Learning curve: Smart computer programs for kids. *Parenting*, pp. 37-39.

"Programs to Play Into Young Imaginations" offers the following unusual and outstanding efforts in software for children:

Gizmos & Gadgets is basic physics disguised as an arcade game (The Learning Company, ages 7-12, $59.95).

KidCAD is computer aided design using interlocking blocks (Davidson & Associates, ages 7 and up, $49.95).

The Even More Incredible Machine is described as Rube Goldberg on a computer disk (Sierra On-Line, no ages specified, $49.95).

Schwartz, B. (1993, December 16). Programs to play into young imaginations. *USA Today*, p. 4D.

"Science Class Was Never Like This" presents a favorable review and in-depth description of *Quarky and Quaysoo's Turbo Science* distributed by Jeff Tunnell Productions, Eugene, OR ($49.95).

Sokol-Margolis, R. (1993, December). Science class was never like this [Review of *Quarky and Quaysoo's Turbo Science*]. *Technology Review, 96*(8), 74-76.

"Video Games That Teach?" discusses the potential of computer games for helping students learn.

Brody, H. (1993, December). Video games that teach? *Technology Review, 96*(8), 50-57.

"Wired for Success" discusses changes that will take place as a result of children growing up with computers.

Papert, S. (1994, July/August). Wired for Success. *Sesame Street Parents' Guide*, p. 24.

Programs and Information on Parental Involvement

The Busy Parent's Guide to Involvement in Education is a practical and informative booklet that shows busy parents how to motivate their children to enjoy school, how to work as partners with their children's teachers, and how to get involved with school and PTA.

Albert, L. (1992). *The busy parent's guide to involvement in education.* Chicago: National PTA (700 Rush Street, Dept. BHG, Chicago, IL 60611-2571). (312) 951-6782. Free, with a minimum order of 100.

Doing Science With Your Children presents information for parents on how to improve their children's science process skills and interest in science. Sections of the digest address the following: (1) the meaning of science, (2) when science instruction should begin, (3) science around the home and community, and (4) science connections at home and school.

Rillero, P. (1994). *Doing science with your children* (ERIC Digest EDO-SE-94-1). Columbus, OH: ERIC Clearinghouse for Science, Mathematics,

and Environmental Education (1929 Kenny Road, Columbus, OH 43210-1080). Free.

Get Into the Equation: Math and Science, Parents and Children contains sections on: (1) why minority parents are concerned, (2) what parents should know about mathematics and science classes, (3) the parent's role in monitoring homework, (4) extra activities in science and mathematics, (5) helping children prepare for tests, and (6) home projects for parents and younger children.

College Board. (1987). *Get into the equation: Math and science, parents and children.* New York: Author. (ERIC Document Reproduction Service No. ED 295 785)

"**Help Children Succeed in Math and Science**" describes ways parents can help children by working with teachers and the PTA.

Williams, L. (1991, March). Help children succeed in math and science. *PTA Today, 16*(5), 16-18.

Helping Your Child at Home...With Science is a series of books that present information and activities for parents to do with their children on topics included in the Macmillan/McGraw-Hill (P.O. Box 508, Columbus, OH 43272-2174) text series. $7.95.

"**Homework: How to End the Struggle**" presents tips for parents on how to get their children to do assigned homework.

Lara, A. (1993, September). Homework: How to end the struggle. *Parenting,* pp. 124-131.

"**How to Raise Smart Kids**" contains simple activities and tips for helping children with creative thinking.

Bradley, B. (1993, September). How to raise smart kids. *Parenting,* pp. 66-71.

Math, Science, and Your Daughter: What Can Parents Do? assists parents in encouraging their daughters' efforts related to mathematics and science.

Campbell, P. B. (1992). *Math, science, and your daughter: What can parents do?* [Encouraging girls in math and science series]. Washington, DC: U.S. Department of Education. (ERIC Document Reproduction Service No. ED 350 172)

"**Parenting the Gifted Young Scientist: Mrs. Wizard at Home**" provides suggestions for encouraging and nurturing gifted young scientists ages 4-10. Suggestions include subscribing to a science magazine, making science a part of family life, and linking science to the arts.

Karges-Bone, L. (1993, March-April). Parenting the gifted young scientist: Mrs. Wizard at home. *Gifted Child Today, 16*(2), 55-59.

Parents and Schools: A Source Book presents information on parent involvement and is a guide for parents and community organizations for understanding the meaning of partnerships between school and community.

Carrasquillo, A. L., & London, C. B. G. (1993). *Parents and schools: A source book.* New York: Garland Publishing.

A Parent's Guide to Great Explorations in Math & Science presents information for parents about the Great Explorations in Math and Science (GEMS) program.

GEMS. (1991). *A parent's guide to Great Explorations in Math & Science.* Berkeley, CA: Lawrence Hall of Science.

A Parent's Handbook discusses ways that American Indian parents can promote their children's success in the areas of science and mathematics.

American Indian Science and Engineering Society. (1990). *A parent's handbook.* Boulder, CO: Author. (ERIC Document Reproduction Service No. ED 343 742)

"**Program Brings Science to Elementary Students**" describes the Parents and Children for Terrific Science (PACTS) Program sponsored by the American Chemical Society's Education Division for encouraging the development of family science projects at the elementary and intermediate school levels.

Worthy, W. (1988, October). Program brings science to elementary students. *Chemical and Engineering News, 66*(41), 26-27.

"**School Success: Seven Positive Steps You Can Take to Help Your Kids**" presents strategies for parents to help their children in school.

Pantiel, M. (1992, June). School success: Seven positive steps you can take to help your kids. *Better Homes and Gardens,* pp. 36-39.

TIPS (Teachers Involve Parents in Schoolwork) is a program designed for teachers seeking more parental involvement. The manuals for teachers have at-home activities in science, health, and language arts.

Epstein, J., Jackson, V. E., & Salinas, K. C. (1992). *TIPS: Teachers Involve Parents in Schoolwork.* Baltimore, MD: The Johns Hopkins University Center on Families, Communities, Schools, and

Children's Learning (3505 North Charles Street, Baltimore, MD 21218). (ERIC Document Reproduction Service No. ED 355 032)

Curricular Reform in Science Education

"The Best Way to Teach" is an article by the famous child-care expert, Dr. Benjamin Spock, discussing the importance of making learning hands-on.

Spock, B. (1993, September). The best way to teach. *Parenting*, pp. 112-116.

EDTALK: What We Know About Science Teaching and Learning answers frequently asked questions about the teaching and learning of science. Parents, community leaders, and leaders from business and industry have to understand why science education must change, what directions for change are the most promising, and what roles each of us might play in encouraging change.

Kober, N. (1993). *EDTALK: What we know about science teaching and learning*. Washington, DC: Council for Educational Development and Research (2000 L Street NW, Suite 601, Washington, DC 20036). (202) 223-1593. (ERIC Document Reproduction Service No. ED 361 205)

The Impact of Educational Reform on Science Education focuses on the following topics: (1) the message of educational reform, (2) changes that have occurred, such as increasing graduation requirements and lengthening schooling, (3) the effects of educational reform efforts on improving education, including the recovery of achievement scores but also the lack of change in teaching methods, and (4) some recommended actions, such as focusing attention on middle school and low-achieving students and designing an indicator system to track the progress of reform.

Blosser, P. E. (1989). *The impact of educational reform on science education* (ERIC Digest EDO-SE-90-16). Columbus, OH: ERIC Clearinghouse for Science, Mathematics, and Environmental Education (1929 Kenny Road; Columbus, OH 43210-1080). Free. (ERIC Document Reproduction Service No. ED 320 764)

Integration of Science and Mathematics presents information for parents about the current movement toward integrating science and mathematics.

Berlin, D. F., & White, A. L. (1993). *Integration of science and mathematics*. Columbus, OH: The National Center for Science Teaching and Learning (The Ohio State University, 1929 Kenny Road, Columbus, OH 43210).

Issues of Curriculum Reform in Science, Mathematics, and Higher Order Thinking Across the Disciplines discusses current curricular reform movements and how to help students think at higher levels.

Anderson, R. D., et al. (1994, January). *Issues of curriculum reform in science, mathematics, and higher order thinking across the disciplines*. Washington, DC: U.S. Department of Education. (202) 783-3238. $10.00.

National Science Standards: An Enhanced Sampler discusses the quest for the development of standards in science education for American students.

National Research Council. (1993). *National science standards: An enhanced sampler*. Washington, DC: Author (2101 Constitution Avenue NW, HA 487, Washington, DC 20418). Free.

Science for All Americans: Executive Summary discusses the educational reform effort called Project 2061.

American Association for the Advancement of Science. (1989). *Science for all Americans: Executive summary*. Washington, DC: Author (1333 H Street NW, Washington, DC 20005). (202) 326-6400. $10.95. (ERIC Document Reproduction Service No. ED 309 060)

Transforming Ideas for Teaching and Learning Science: A Guide for Elementary Science Education shares ideas drawn from research and promising practices in science education. Essays are presented for the following topics: (1) Science is for all students; (2) Setting science standards provides a valuable resource for improved instruction; (3) Students learn by "constructing" knowledge; (4) Hands-on, inquiry-based instruction is well established as an effective teaching strategy; (5) Exploration, dialogue, and discourse promote understanding; (6) In the overfull science curriculum, instruction should focus on the essential concepts of science and on teaching them more effectively; (7) The teacher's role is changing to facilitate student learning, while the student becomes a more active learner; (8) Appropriate staff development brings lasting improvements in science teaching; (9) Assessment must be more closely aligned with the goals of science instruction; (10) Families and other concerned adults play important roles in promoting science education.

Sivertsen, M. L. (1993, September). *Transforming ideas for teaching and learning science: A guide for elementary science education*. Washington, DC: U.S. Department of Education (OERI Education Information, 555 New Jersey Avenue NW, Washington, DC 20208-5641; Order #065-000-00599-9). (800) 424-1616. Free. (ERIC

Document Reproduction Service No. ED 362 417)

"**Trends in Science Education: Teaching Real Science**" discusses national standards and their potential effects on science education. It describes three national curriculum reform approaches: Project 2061; Scope, Sequence, and Coordination; and Science/Technology/Society.

Beardsley, T. (1992, October). Trends in science education: Teaching real science. *Scientific American, 267*(4), 98-108.

The World According to Science: Think About It briefly explains that science is more than a class in school—it is a special set of beliefs, tools, and habits of mind for considering the real world.

Howley, C. (1991). *The world according to science: Think about it.* Charleston, WV: ERIC Clearinghouse on Rural Education and Small Schools. (800) 624-9120. (ERIC Document Reproduction Service No. ED 332 861)

800-USA-Learn Telephone Bank provides information and assistance on *America 2000: An Education Strategy* and other Department of Education programs, policies, and publications.

Science Fair Resources

The Complete Science Fair Handbook presents detailed information on science fair projects for adults working with students in grades 4-8.

Fredericks, A. D., & Asimov, I. (1990). *The complete science fair handbook* [For teachers and parents of students in grades 4-8]. Glenview, IL: Good Year Books (1900 East Lake Ave., Glenview, IL 60025). $8.95. (ERIC Document Reproduction Service No. ED 317 373)

Environmental Science: 49 Science Fair Projects is designed for students in grades 6-9.

Bonnet, R. L., & Keen, G. D. (1990). *Environmental science: 49 science fair projects.* New York: Tab Books. $9.95.

A Research Guide for Science Fairs and Independent Study is for the gifted, talented, or creative student in grades 4-9 who wants to do a science project, enter a competitive fair, or pursue an independent study in any subject area.

Wolfe, C. (1987). *A research guide for science fairs and independent study.* Tucson, AZ: Zephyr Press (3865 East 34th Street, #101, Tucson, AZ 85732-3448). $12.95. (ERIC Document Reproduction Service No. ED 313 258)

"**Science Fairs: A Primer for Parents**" outlines and discusses guidelines for parents whose children may be involved in preparing a science fair project. The author suggests that this article be sent home with students when they are assigned a science project.

Hamrick, L. (1983, February). Science fairs: A primer for parents. *Science and Children, 20*(5), 23-25.

Students and Research: Practical Strategies for Science Classrooms and Competitions was written to make it easier for teachers to teach students the skills they need to successfully conduct, analyze, and report an experiment.

Cothron, J. H., Giese, R. N., & Rezba, R. J. (1993). *Students and research: Practical strategies for science classrooms and competitions.* Dubuque, IA: Kendal Hunt Publishing Company (2460 Kerper Boulevard, P. O. Box 539, Dubuque, IA 52004).

Careers in Science

Careers in Science and Technology is a book written by practicing scientists and engineers for middle- and high-school students. The book includes descriptions of various scientific and engineering fields and associated requirements, biographical examples of successful scientists and engineers, and guidance in course selection.

NASA, & U.S. Department of Energy. (1993, September). *Careers in science and technology.* Washington, DC: Author (see address below for ordering NASA publications). Free.

The Science Explorers Program is a series on PBS television and available on videotape. The goal of the program is to introduce students to science as a career possibility for their own lives. Call NASA CORE at (800) 621-0660 or (216) 774-1051 ext. 294.

Science Is Women's Work: Photos and Biographies of American Women in the Sciences features 26 women who successfully pursed careers in 18 different areas of science. This booklet is intended for children in grades 4-8. A full-color poster (22" x 27") is also available.

Gallop, N., & Staff. (1993). *Science is women's work: Photos and biographies of American women in the sciences.* Windsor, CA: National Women's History Project (7738 Bell Road, Dept. P, Windsor, CA 95492). (707) 838-6000. $8.50 plus $3.50 shipping and handling.

NASA Materials

NASA materials are free and available from (1) NASA Teacher Resource Center; Mail Stop 8-1; NASA Lewis Research Center; 21000 Brookpark Road; Cleveland, OH 44135; (216) 433-2017; (2) NASA Teacher Resource Laboratory; Mail Code 130-3; NASA Goddard Space Flight Center; Greenbelt, MD 20771; (301) 286-8570; or (3) your nearest regional NASA Teacher Resource Center. If you have a computer and modem, you can get on-line information from Spacelink (205) 895-0028, and if you have Internet connections, the address is 192.149.89.61.

Finding Journal Articles and ERIC Documents

1) Journal and magazine articles may be found at college or public libraries. Some articles can be ordered for a fee from an article reprint service. Two reprint services are:

Genuine Article Service
3501 Market Street
Philadelphia, PA 19104
Phone: (800) 523-1850

University Microfilms International
Article Clearinghouse
300 North Zeeb Road
Ann Arbor, MI 48106
Phone: (800) 521-0600 ext. 2888

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